

**Abstract**

A system for interconnecting ATM systems over an ATM facility using switch virtual connections, without having to reprogram existing addresses of the ATM systems when using a switching ATM service network. The system includes two or more ATM systems having an ATM system addressing scheme and an intermediate switching ATM network having an intermediate switching ATM network addressing scheme, which is independent of and unknown to the ATM systems. Calls are transmitted between hosts of different ATM systems via border node switches. The hosts are unaware of the intermediate switching ATM network addressing scheme and thus only identify the ATM system address of the called party host in a called party address information element. The border nodes serve as an interface between the two addressing schemes. A calling party border node substitutes in a called party address information element an intermediate switching ATM network address of a called party border node for the called party ATM system address to route the call over the intermediate switching ATM network. After routing the call over the intermediate switching ATM network the called border node generates in the called party address information element the ATM system address of the called party host. The ATM systems are therefore interconnected over an intermediate ATM network without incurring the time and expense to reprogram the ATM system addressing schemes.